

# ROMANIAN NEWS

ELEVENTH YEAR  
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JANUARY 8  
1988  
16 PAGES — 3 LEI

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Now, at the beginning of a new year, we are calling on all the states and peoples of the world to do their best for the new year to mark important steps on the road to disarmament, peace, solving conflicts through negotiations, achieving new, democratic relations based on the principles of fully equal rights, observance of the sovereignty and independence of each nation, noninterference in internal affairs, complete renunciation of the use and threat of force

*From President Nicolae Ceaușescu's New Year Message Broadcast by Romanian Radio and Television*

## AT THE BEGINNING OF A NEW YEAR

The beginning of a new year is, by tradition, a time to take stock of the achievements of the year that has passed, for sketching the provisions for the future. For Romanian people, the events at the turn of the eight five-year plan period, too, strongly prove the correctness of the policy promoted by our communist party which credibly fulfills its role of leading force of the whole nation on the road of building the justest socialist community.

For these remarkable achievements, President Nicolae Ceaușescu extended his warm congratulations to the working class, the peasantry, the intelligentsia, to the whole people, further on showing that we enter the new year, 1988, with clear-cut plans and programmes for our work then and over the five-

year plan period, just as in the long run, till the year 2000.

The National Conference of the Party, the revolutionary worker democracy bodies and the Grand National Assembly approved the plans and programmes of work for 1988, set appropriate measures for the elimination of this year's shortfalls, the improvement of activity in all areas and the resolute passage to the unflinching implementation of the targets for our homeland's socioeconomic development starting on the first day of the new year.

Now it is decisive to firmly pass on to well-organized work in all sectors, improving management and work with a high sense of revolutionary responsibility, strengthening order and discipline and do so as each one at his workplace.

(cont. on p. 2)



## ELENA CEAUȘESCU ANNIVERSARY

Elena Ceaușescu, member of the Executive Political Committee of the CC of the RCP, First Deputy Prime Minister, Chairwoman of the National Council of Science and Education, was feted on her birthday and long activity in the communist and working-class movement during a ceremony held in Sinaia resort on Thursday, January 7.

The ceremony was attended by the General Secretary of the Romanian Communist Party Nicolae Ceaușescu, full and alternate members of the Executive Political Committee of the CC of the RCP, secretaries of the Party's Central Committee, members of the State Council and of the Government.

In that festive atmosphere, Elena Ceaușescu was handed the letter of the Executive Political Committee of the Central Committee of the Romanian Communist Party by Constantine Dăscălescu, member of the Executive Political Committee of the CC of the RCP, Prime Minister.

## SCIENCE — A DECISIVE FACTOR IN IMPLEMENTING DEVELOPMENT PROGRAMMES

RESEARCH,  
PRODUCTION  
(PAGE 3)

AN EFFICIENT  
STRATEGY  
(PAGE 3)

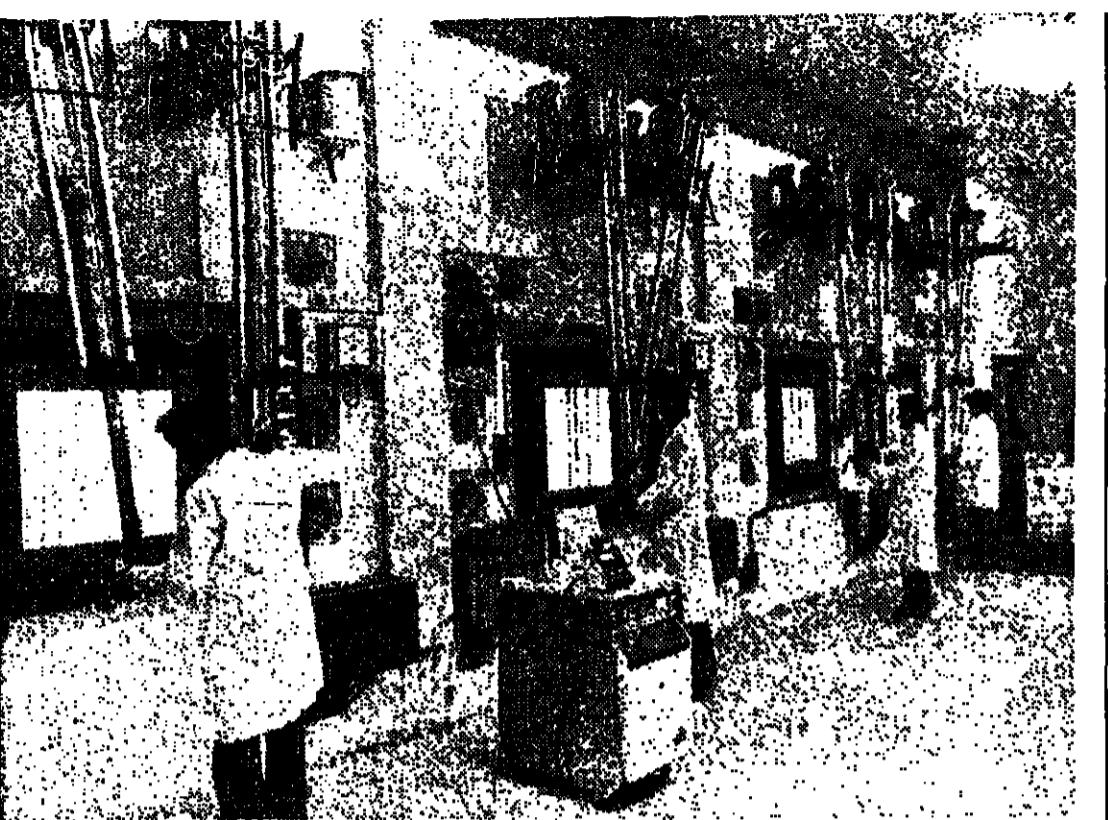
## THE SINGLE NATIONAL PLAN OF ROMANIA'S SOCIOECONOMIC DEVELOPMENT IN 1988 (PAGES 8-9)

The letter of the Executive Political Committee of the CC of the RCP addressed to Academian Elena Ceaușescu, D.Sc., on her birthday is highly appreciative of her long activity in the communist and working-class movement, of her contributions to the national liberation for the country's socio-economic transformation for the revolutionary transformation of the new revolution in politics and techniques and of the new agrarian revolution in the socialist Romania.

On behalf of the party and people give a high and unanimous appreciation to your activity as an outstanding Party and state militant and eminent scientist, to your decisive contributions as a member of the Executive Political Committee of the Central Committee of the Romanian Communist Party, as

cont. on p. 3





## ADVANCED RESEARCHES

Romania has a national centre of physics as part of which researchers are engaged in the field of nuclear energy for peaceful purposes. By means of cyclotrons, synchrotrons, giving particles high energy and other equipment, specialists study the mechanisms of nucleus interaction and structure, the process of nuclear fission. To this end they use X-ray and gamma radiations, detectors of charged particles, including heavy ions, ionization chambers, and other identification systems, etc. Experimental data are introduced in computers on the basis of a complex software. From among the successes of the Romanian physicists noteworthy are the results obtained in the study of the structure of nuclei. At the same time remarkable results have been obtained in the research of radioactive mechanisms. Outstanding results are scored by the approach of other high-tech researchers in the field of atomic processes, of the physics of heavy ions. At the same time developed were applicative researches through the creation of nuclear filters for microelectronics, the pharmaceutical and food industries.

Original methods have been worked out for determining the

content of hydrogen on the surface of nuclear semiconductors, of certain impurities, as well as for identifying impurities in semiconductors. Various installations using the properties of gas and plasma discharges, various accelerators and bremsstrahlung, non-destructive control, medical therapy, etc. have been designed. Also devised were installations and technologies for the vacuum technique, electron beam welding, metal deposition, special alloys obtaining. The Romanian researchers have created nuclear electron apparatus and dosimeters for nuclear electric stations. Together with German

LUDOVIC ROMAN ■

## HILL RECOVERY

The Romanian vine culture research has made possible the scientific classification of crevats and the distribution of breeds according to the pedological peculiarities of each vineyard. During the last years, 18 new breeds and over 20 clones of vine have been created, being more resistant to cold, drought, diseases and pests. Wine growing technologies have been modernized, directing the vines on stems has been introduced, and



## FLEXIBLE CELL SYSTEMS

Last year, a flexible cell workshop was commissioned at the Semiconductors Enterprise. It is the result of collaboration of the specialists of the unit with those of the Tîrgu Mureş Institute of Semiconductors Research and Technological Engineering for Machine Tools, who worked out the project and, part of the system of automated supply for flexible cells. The workshop is part of an ample action developed by a large investment plan, which has practically changed the face of industry by modernizing the technological procedures and, above all, the processing, control and the assembly work.

The first stage was consolidated last year and now work is being done for a new technological stage. The flexible cells and the robots have started work in the first stage. We can mention the following: to robots, serving the executive systems

They are called "Ric 40" and "RS 63", of course, their industrial names, and they are produced in the same way as automated supply systems. A second aspect concerns the purpose for which the installations and machines are being used, about have been brought together. The exploitation stage is two aspects. First, the necessary to make the technological process, a single stage, separately, the possibility to synchronize, especially, the possibility to synchronize, especially, the operators, computer programmes - who synchronize the machines while working.

By using the robots, served flexible systems, a growth of 50 percent. In labour productivity, the flexible cells and the robots have started work in the first stage. We can mention the following: to robots, serving the executive systems

design, the programming of economic activities are constant concern with Romanian experts who have worked out numerous articles, monographs and monographs brought out in the well-known series of the Bucharest technical publishing house The Library of Automatics, Informatics, Electronics and Management. Of the latest releases we should mention *Identificarea asistată de calculator a sistemelor (Computer-Assisted Identification of Systems)* by Mihai Terlișo, Petre Sîlăo and Theodor Popescu, a study laying stress on algorithms and the implementation on computers of questions related to industry, environment protection and other fields. The authors set forth original methods of identifying solutions, of analytically and experimentally modelling the processes under study. Another volume, *Desenarea suprfețelor asistată de calculator (Computer-Assisted Drawing)* edited by Ion Marin, Marinovici, Tănase and Radu Constantinescu brings up interesting applications of the Romanian-made independent and Coral minicomputers, and of the DAF 2020 display. The work presents automation programmes for technical drawing and design activities in machine and metal engineering enterprises. Recently printed was also the study "Finite and Border Elements with Applications in Machine Body Computing". The authors, M. Gafităeanu, V.F. Poteraya and N. Mihalache, note in the preface that the work is based on Romania's and other countries' experience in the realm of expanding sophisticated computing methods, especially that of elements and border finite.



## AUTOMATION

## THE ROMANIAN LASER

Laser physics is one of the most fabulous domains of modern physics. Sprung out of the crossroads of numerous trends and directions, laser technology has preserved and enlarged its interdisciplinary character lately. It is successfully applied in material processing, printing, medicine, telecommunications, optical processing of data, metrology, etc. Noteworthy is the fact that making an analogy between the first 25 years development of laser and the development of computers over the same period of time, statistics show that lasers have outrun computers as regards their selling in the world market.

Romania was one of the first countries in the world to approach this field. Celebrating 25 years since the creation of the first Romanian laser, a National Meeting on achievements and prospects in the domain of lasers and their applicability in the national economy took place not long ago. About 400 experts from ICEFIZ, from various domains of economy and scientific activity participated. The over 140 papers and 25 reviews presented highlighted the high standard of laser and the development of computers over the same period of time, statistics show that lasers have outrun computers as regards their selling in the world market.

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## LOOKING INTO THE 2000S

As part of the recent nationwide meeting dealing with laser — Dr. Mihai Lucian Pasca, director of the Institute of Physics and Technology of Radiation Equipment (ITARE) told us — the specialists of the institute and those working in industry, agriculture and medicine outlined ways and means of implementing more rapidly these technologies in economy and research. Approached in particular was the question of expanding the industrial production of laser equipment in the context of approaching privatization and introducing to the production line of complex products involving a large volume of intelligence. In this respect a better collaboration has been achieved between the specialists of the institute and those in economy. Moreover, multidisciplinary teams have been set up in order to solve important technological questions. I

think that we have favourable premises for such joint actions. Of late, our activity has been focused on diversifying types of lasers: He-Ne, CO<sub>2</sub>, ionized arc, hydrogen, deuterium, solid body, semiconductors, etc. In parallel, a significant increment has been recorded in the functional parameters of the existing lasers. Hence, my confidence in the possibility of expanding the number of laser applications. We have designed new types of lasers boasting several features which are used for the processing of materials, the control of environmental pollution, for various activities in medicine and biology, research into plasma, preparation of images, interferometry and industrial photography. The systems of aligning lasers with helium and neon produced by us are currently used in constructions and agriculture. The laser equipment with carbon dioxide for

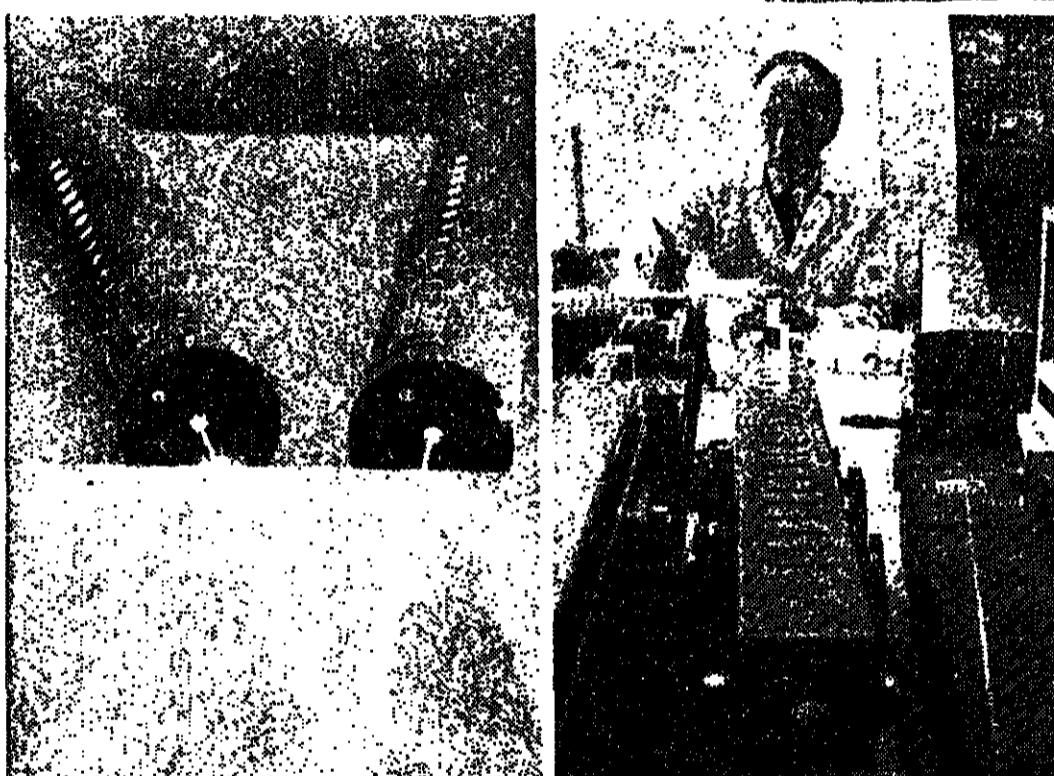


## A RAY OF HOPE

Since its advent, laser has stood out through the accuracy of its handling and the efficiency of the process of laser-tissue interaction radiation. This has created a keen interest in the implementation of laser in the medical, therapy and surgery equipment. Developed for and adapted to these purposes were lasers with emission from ultraviolet to infrared, with continuous emission or in short impulses and greater power on the pulse. In parallel with the development of laser equipment a series of clinical research have been made into applications to various medical fields: ophthalmology, gastroenterology, neurosurgery, otolaryngology, urology, gynaecology, dermatology, etc. Thanks to the development of optical fibers and of optomechanical devices, laser has been adapted to operations of

cutting live tissue, tissue evaporation (especially tumour areas), tissue ablation (blood vessels), ocular correction, treatment of varicose veins, angioplasty, revascularization, etc. Thanks to the use of medical laser equipment, many medical technologies can be executed performed on outpatients either with or without anaesthesia. Essential is also to shorten the duration of post-operative recovery of patients after surgery.

As concerns the realization of Romanian medical laser equipment, discussions are underway on CO<sub>2</sub> laser sets: BLAS-10 for microscopy and BLAS-30 for general surgery. At the same time we have three types of photocongolants used in ophthalmology, as well as a biosiluhaluator with laser with helium-neon used in the treatment of rhumatological affections and in acupuncture.



## ROMANIAN LASER TECHNOLOGY

A laser technology developed by Romanian specialists is becoming increasingly more widespread in industry: the laser nitridation for superficial hardening of metallic parts. The method, which consumes 30–80 per cent less energy than the established methods of this kind, ensures large savings of material, time and labour. The special steel with a high content of chromium, vanadium, nickel, molybdenum. At the Brăila Truck Enterprise, for instance, about 65 tons of parts, especially cog wheels, pinions and racks are nitridated annually. At the tool enterprise in the same city, at the Pitesti car enterprise, at the Union works in Cluj-Napoca and many other economic units, the application of this method brings in annual savings worth millions of lei. The laser nitridation technology is being generalized in all specialized enterprises in this country. The serial manufacture of nitridation installations has started at the Pitesti equipment enterprise. Similar installations have recently started to be produced also by other enterprises. — Motolotronics in Tîrgu Mureş, the prototypic and small-series production factory of the Institute of Research for Hot Stacks in Bucharest, etc.

cutting allows the cutting of steel sheets of up to 4–5 mm. Other installations are Solar F<sub>2</sub>, designed for cutting silicon plates in the electrotechnical industry. Neelind 15 and Heraclies 25. Presently we have developed a powerful CO<sub>2</sub> laser functioning in pulsed regime, with a high frequency repetition of pulses, combining thus the advantages of lasers with a pulsed regime with those of lasers operating in a continuous regime, being able

to supply peak-powers of scores of Megawatts and mean powers of 500 MW. On a world plane, such lasers have been conceived only in the USSR and in the USA. At the same time numerous laser installations have been applied to medicine.

Our programmes for the on-going five-year plan period and until the year 2000 are as follows. Thus, in the field of CO<sub>2</sub> lasers the programmes stipulate the achievement of increased powers and of impulse



energies 10 times bigger than the present ones. In the field of adjustable continuous lasers with an active solid and liquid material, accountability will be obtained throughout the visible-light domain. Infrared and ultraviolet, brought closer by non-linear effects, parametric generation, and generation of relativistic intensities with a wide range of bands. Lasers in the visible-light domain will be obtained with a multi-wavelength system, both in pulsed and continuous regime. The applications of the above-mentioned

systems will be approached allowing for applications already in use on a world plane, such as dynamic lithography and holography for microelectronics. Lasers with semiconductors will be developed for communications (long and computer technologies) and generation of relativistic intensities with a wide range of bands. Lasers in the visible-light domain will be obtained with a multi-wavelength system, both in pulsed and continuous regime. The applications of the above-mentioned

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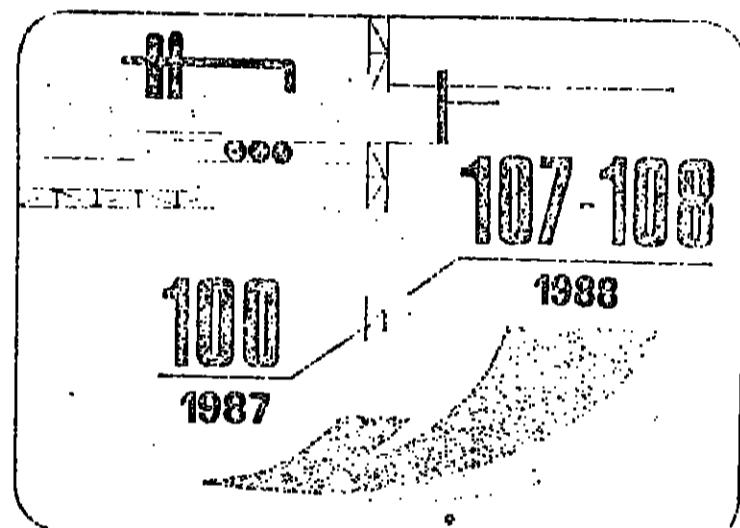
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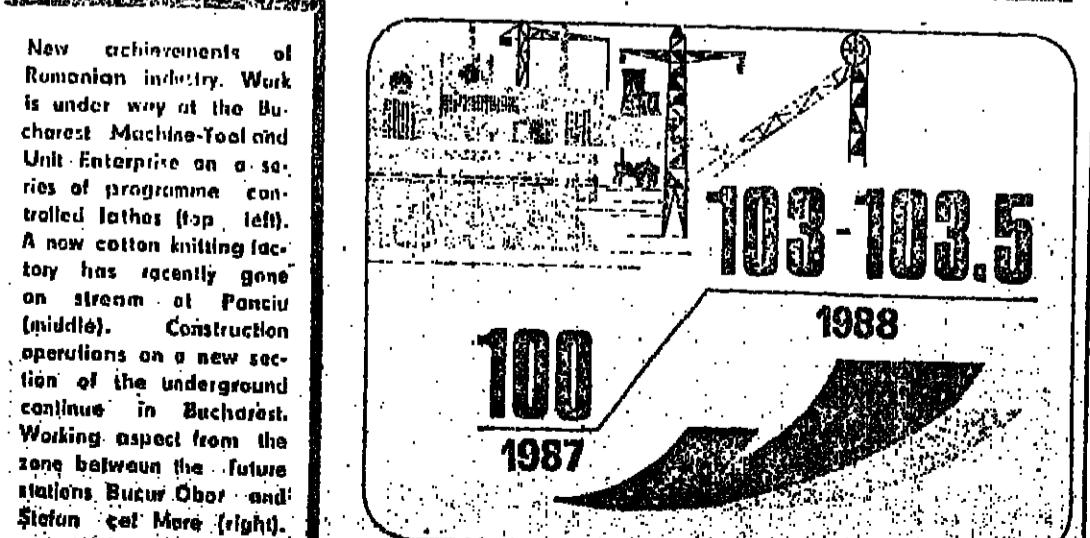
# THE SINGLE NATIONAL PLAN OF ROMANIA'S SOCIOECONOMIC DEVELOPMENT IN 1988



DYNAMICS OF THE INDUSTRIAL MARKETABLE PRODUCTION



New achievements of Romanian industry. Work is under way at the Bucharest Machine-Tool and Unit Enterprise on a series of programme controlled lathes (top, left). A new cotton knitting factory has recently gone into stream at Panciu (middle). Construction operations on a new section of the underground continue in Bucharest. Working aspect from the zone between the future stations Butucu Obor and Sfatu (set More) (right).



FULFILMENT OF THE INVESTMENT PROGRAMME

## THE SIGNIFICANCE OF SOME PLAN INDICATORS

As we informed you in our last issue, at the end of last year the Grand National Assembly (Parliament) unanimously passed the Law on the Single National Plan of Romania's Socioeconomic Development for 1988. The participants in the debates highlighted President Nicolae Ceausescu's decisive role in working out and laying on scientific bases, in keeping with a unitary outlook, the lines of the country's socioeconomic development in 1988. In thinking out and applying the programmes of stressing the qualitative, intensive sides of production, improving the organization and modernization of production, perfecting economic-financial activity, increasing the efficiency of the entire social work.

The whole content of the plan reflects the orientation towards emphasizing the qualitative sides of economic growth, the course towards an intensive-type reproduction, the substantial increase of efficiency in all activity sectors. Noteworthy in this respect is the much higher growth rate of the national income — 9.0-10.0 per cent — compared to that of the social product, which will be 6.0-6.5 per cent. Such an increase in the national income will secure both the funds necessary for overall development and those earmarked for passing on to raising remuneration by some 10 per cent, while further promoting a firm policy of price and tariff stability.

The plan lays special stress on expanding the base of raw materials. Improving manufacturing structures in the processing industry by giving priority to the growth of high-tech branches.

Special tasks are assigned concerning the growth of the production of the extractive and power industry, especially with oil, pitcoal, lignite, non-ferrous ores and coal-based electric energy. For metallurgy and machine engineering the plan stipulates the increment of the share of highly qualified products, the intensification of the process of redesigning and upgrading, the replacement of alloy and high-alloy steels, the improvement of performances and reliability of products. Chemistry and petrochemistry will ensure the fulfillment of high indicators of turning to good account raw and auxiliary materials, continuing to expand the field of fine synthesis and small-tonnage chemistry. In the field of wood processing, construction materials and light industry, stress is laid on diversifying the range of products, curtailling specific consumptions, turning out new products with lighter weights and typified sizes.

Through its provisions, the plan ensures the increase of labour productivity in the republika industry by 8-9 per cent, of the degree of capitalization of raw and auxiliary materials, fuels and energy, including recoverable and renewable sources.

According to the plan, the activity of scientific research, technological development and introduction of technical progress will substantially contribute to implementing the programme of intensive development and modernizing production processes, better capitalizing raw materials, updating the technical and qualitative level of production and reducing material and energy inputs. For attaining these objectives, the plan stipulates among others the improvement of the existing raw-material processing technologies and the devising of new updated ones, the assimilation of new source materials, machines and equipment, the improvement of the organization, standardization and marketing activities. Finally, as is but natural, fundamental research will organically intertwine from now on too, with the application one, while the link between research, education and production will continue to be strengthened.

In 1988 the total volume of investments in the economy will top 850 billion lei. Investments will be primarily earmarked for implementing the updating and reorganizing programmes, also stipulated in a substantial outlay in the share of construction works in the overall investments.

Thus, in its 10-year branch of the national economy, the plan lays down the projects to be achieved while also providing the requisite financial, material and human means.

## INDUSTRIAL RATES

In 1988 industry will continue to represent the fundamental component of the policy of economic development in Romania. According to the plan, this year the value of goods production will increase by 7.0-8.0 per cent as compared to last year, and that of net production by 11.0-12.0 per cent.

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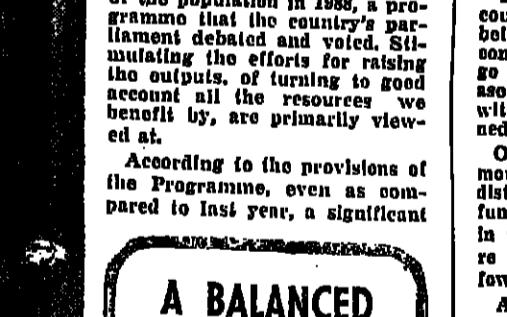
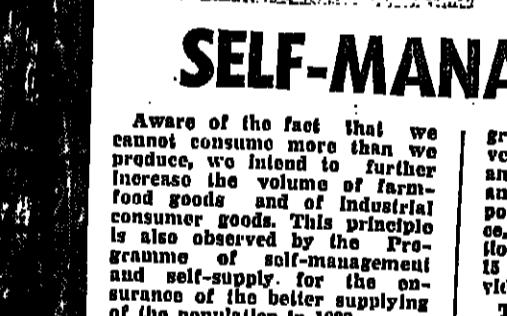
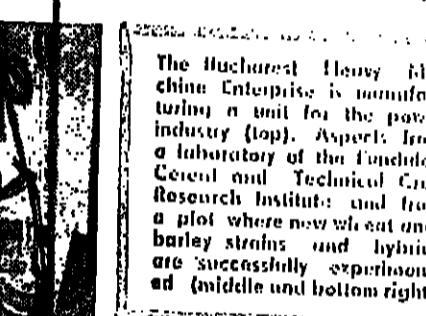
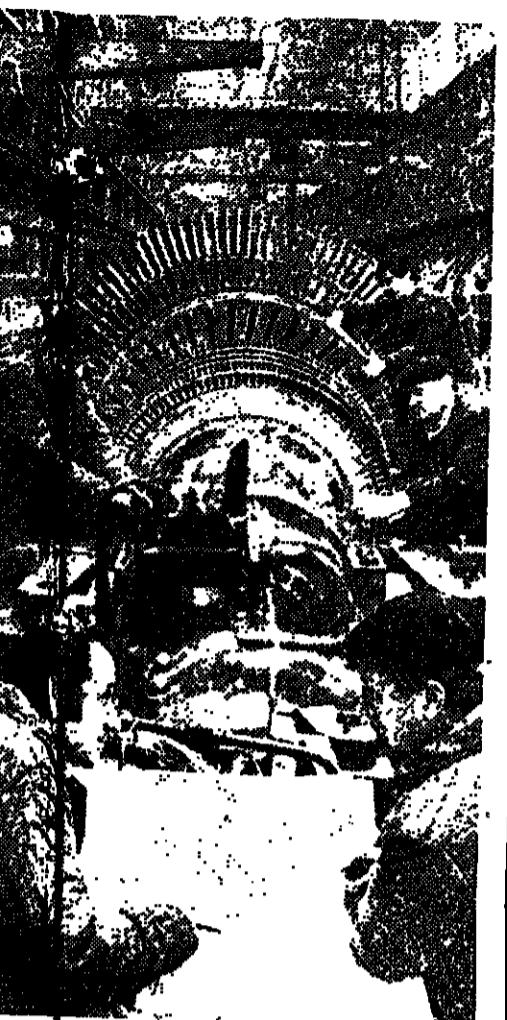
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INCREASE OF THE NATIONAL INCOME

## AGRICULTURE

When in 1984 Romania obtained for the first time in its history a cereal harvest larger than 20 million tons, the production of a ton of cereals for every citizen was considered a great agricultural performance.

But, in the ensuing years — 1985, 1986 and 1987 — visibly larger productions were planned and harvested. Thus, in the last two years, in hardly favourable weather conditions, the cereal production has topped 30 million tons. Large crops have also been re-glaciered with fodder, leafy plants, vegetables, fruit and grapes. At the same time the quantities of livestock products achieved in the field of animal breeding have increased.

Crops of eight or nine thousand kg of wheat or more than 20 t of maize per ha which five years ago were considered to touch the highest possible ceiling were reaped in the falls of 1986 and 1987. The same average production obtained throughout the country in all categories of farms received the high order of "Hero of the New Agricultural Revolution". The presence of such standard Romanian agriculture.

Naturally, it would be an illusion to adopt as plan provisions the figures calculated on the basis of these record outputs. However, their existence substantiates the provisions of the Law of the Plan of Development of Agriculture, Food Industry and Water Management for 1988.

The main indicators show first of all the constance of the high growth rates of this branch.

The overall farm output will increase this year by 5.5 per cent as against that of last year, the net production by 6-6.5 per cent, while the industrial goods production by 7.0-8 per cent, confirming that Romania continues to promote a highly dynamic agricultural policy.

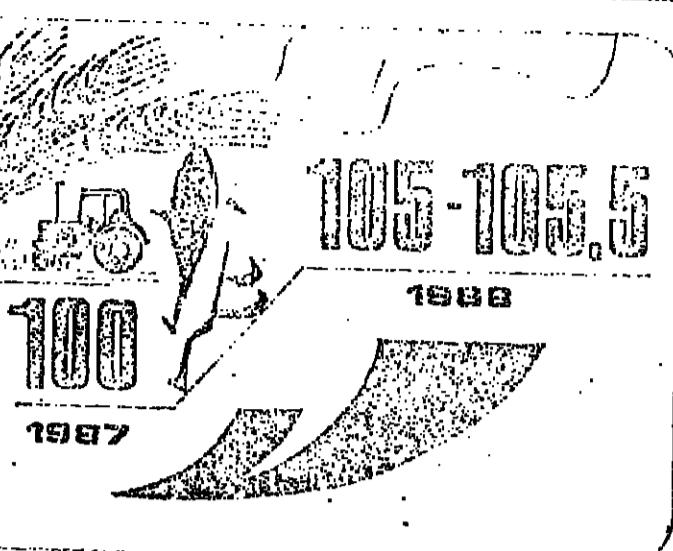
The law not only ascertains plan figures but also substantiates them by indicating realistic solutions for the growth of farm outputs.

This year, too, stress is laid on the complete and intensive usage of the land stock, on the recovery and recycling of these areas which in the past were unreasonably affected for constructions and other non-farming purposes.

This year too stress is laid on the intensive use of the land stock, on the recovery and reclamation of those areas which in the past were unjustifiably used for buildings and other non-farming purposes.

The law further calls for the introduction and expansion of the most productive varieties and hybrids, the use of seeds from superior biological categories, strict observance of production technologies. Animal breeding has in view the improvement of reproduction breeds, melioration, the growth of production in all farms where animals and poultry are raised.

Under the law scientific research is to contribute to the intensive development of Romanian agriculture, scientific institutes and stations are required to work out new technologies for restoring and enhancing the fertility of soils, especially of those eroded, sandy and salt-saturated, create new high-yield strains of plants, more resistant to low temperature, drought and other unfavourable environment conditions, to improve genetically the animal breeds, to fully capitalize on the existing fodder base, natural pastures and hayfields included. Finally, emphasis is placed on the technologies implying a low consumption of chemical substances with a view to reducing the polluting effects and conserving the qualities of the environment.



GROWTH OF THE GLOBAL FARM OUTPUT



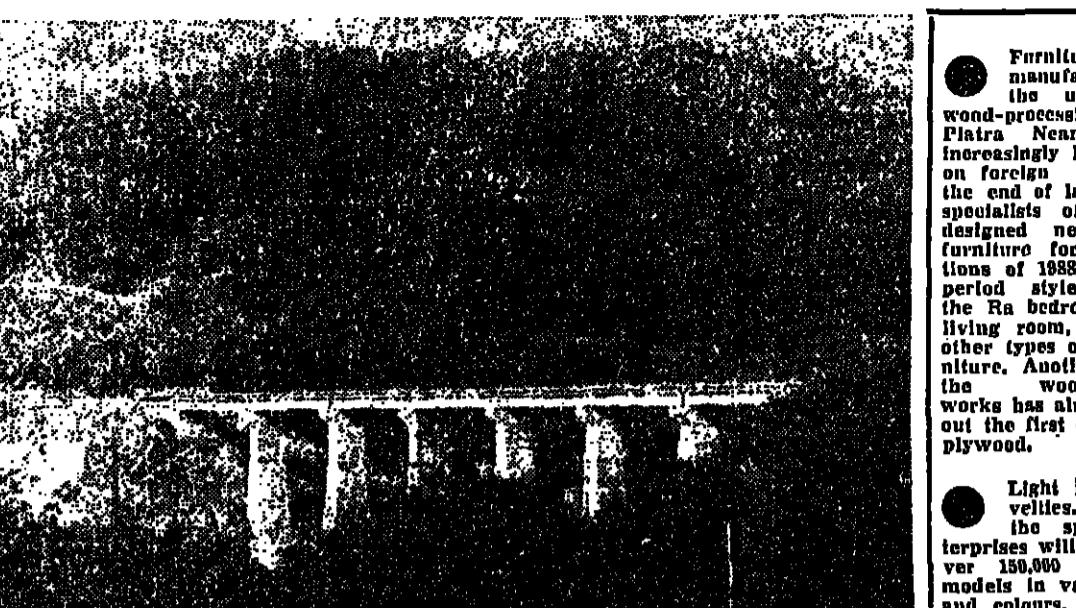
## THE QUALITY OF LIFE

The fundamental purpose of the whole Romanian policy is the permanent raising of the material and cultural living standard of the people.

As we have already said, this year will see the beginning of the action of increasing the remunerations by 10 per cent. All the economic units, the central and local bodies are to take measures for the firm application of remuneration principles and distribution of the incomes of working people, in order to correlate incomes to the work performed, to apply the overall and direct agreement.

A large spectrum of measures devoted to raising the quality of life is included in the Programme regarding self-management and self-supply, on territorial level.

The plan also provides for measures on the continuous improvement of health and social care, with stress on prevention, the fight against circulation, let us mention — without going into detail, the provisions of the plan in this domain — that this year 150 new dispensaries will be commissioned, out of which 24 are to be in the security sector.



### A RAILROAD IN THE APUSENI MOUNTAINS

Recently, the Deva-Rudă railroad has been commissioned, improving public and goods transport between the southern region of the Apuseni Mountains and other localities in the country. The railway covers now only 30 km, as compared to 316 km account-

ing for the old, winding route. The building of this new railroad imposed the construction of 77 bridges, 10 viaducts, four tunnels. Two million cu m of rock were excavated and almost half a million cu m of concrete were cast.

### MAMMOTH INSTALLATION

The enterprise of construction and mining equipment in Tîrgu Jiu finished the works on the first electric truck, designed for excavating bucket-wheel excavators used in coal quarries, with a capacity of 1,600 cu m of mining mass excavated per hour. It reaches a height equal to 10 m in exploitation.

### LIGHT WEIGHT CONCRETES

Specialists of the Central Institute of Research, Design and Directions in Construction — the Cluj-Napoca section — have created new types of light weight concretes, obtained by injecting indigenous foams in the mortar mass. Their technico-economic characteristics make them ever more useful, foam concretes successfully replacing aerated light weight concrete. They complete the range of thermo-insulating materials presented in the same time a series of new qualities. The new technologies allow of obtaining the product directly from the specialized units.

The assimilation into fabrication of the new light weight concretes used as insulating materials for roofs and as thermo-insulating layers for perimeter walls in civil, industrial and agrosootechnical constructions leads to the considerable improvement of the thermal comfort.



DAC 113 represents the latest achievement of Automobile Enterprise in Bucharest, made in collaboration with the Bucharest Transport Enterprise, the end user of the new transport means. It

corresponds to the demands of modern traffic. DAC 113 benefits by a blocking device for the motor axle giving the possibility to start on ice, climb slopes in conditions of low adhesion.

### A WORLD TRADE MARK

UMARO is a mark well known in over 30 world countries. It belongs to the Mechanical Enterprise in Roman. New types of machine tools with superior technico-functional characteristics have been made here. Among them is the vertical lathe with a processing diameter of 1,600 mm. It has numerical control and a driving plate ensuring a 100 percent productivity increase. The vertical lathe for wagon wheel processing, which was highly appreciated at the world exhibition in Milan and the new special machine for roller thread cutting are two other novelties.

Furniture items manufactured by the units of the wood-processing plant in Piatra Neamt are in increasingly high demand on foreign markets. At the end of last year, the specialists of the works designed new types of furniture for the collections of 1988, including perfot style bedrooms, the Ra bedroom, the Cora living room, as well as other types of small furniture. Another novelty: the wood-processing works has already turned out the first quantities of plywood.

Light industry novelties. This year, the specialist enterprises will turn out over 150,000 items and models in various prints and colours. Of them, 90,000 will be new. As regards the modernization of technologies, 17 new technologies will be introduced and another 113 will be generalized. These will equip production units under construction in Turnu Măgurele, Iași, Curtea de Argeș, Bîrlad and Târgu Jiu. Also, the knitwear and synthetics fur enterprise in Vărgata will be completed. Romanian light industry products are exported to over 70 countries on all continents.

The Tercor synthetic fibres works in Iași has homologated and assimilated a new product. We are referring to the copolyester fibre with phthalic anhydride, a product finalized on the basis of technologies worked out by specialists of the Iași works. It is meant for the leather substitutes industry. The new fibre boasts remarkable physical and mechanical properties.

### MEDALS, PRIZES, DIPLOMAS

Romanian architecture is backed by a school with old-standing traditions. This affirmation is not new for the specialists. New are just the confirmations of the value of these specialists who make it up. The latest event of this genre was hosted by the Bulgarian city Sofia. The world architecture biennale — INTERARCH '87 gathered designs of 387 architects from 31 countries. A competition specialist committee analysed the relation between new elements, functionality, originality and combination of building materials — and awarded several important distinctions.

Among the works enjoying unanimous appreciation was one signed by architects Barbu Popescu and Stefan Dorin, the former associate professor, the latter assistant professor at "Ion. Mincu" Architecture Institute in Bucharest. Their design — House of Sciences and Technique for Youth in Sighet (Olt county), inaugurated a short time before the competition — was awarded the silver medal, the special prize and diploma of honour.

The two architects are in Romania, among the best known creators in the field of constructions for the young generation. In their 17 years of work they designed, among others, the Culture and Education

Complex for Youth in Galați which was awarded in 1986 the Prize of the Romanian Architects' Union, the House of Youth in Tîrgu Jiu, Student Park in Bucharest, a design which also received a prize of the Architects' Union. Other designs by the Romanian architects are under construction: the Recreation Complex, in Tîrgu Jiu, the Youth House in the city of the Youth Complexes, in Mediaș and the Recreation one in Bacău (Argeș county).

In Sofia, at the mentioned biennale, within the design section, another Romanian architect, Florin Bîlăucea from the Research Apparatus and Equipment Enterprise — IAUIC Bucharest — won the third prize with the work "At the Same Time in the Same Place." The design ingeniously and efficiently capitalizes a series of architectural modules. Florin Bîlăucea did not participate in an international confrontation for the first time. At the previous edition of the event he obtained two valuable distinctions: the silver medal and the Special Prize of the town of Toulouse for the achievement section and a bronze medal for the design section.

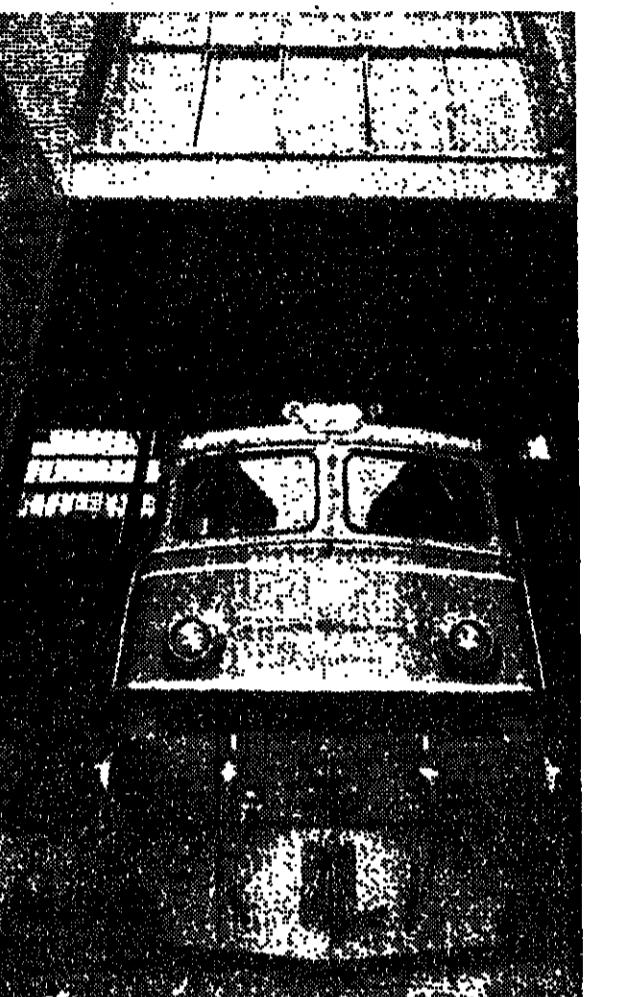
M. CONSTANTIN

### 3,500 ENGINES

The 2,100 hp Diesel-electric gathering locomotive is a novelty produced by the well-known Electroputere plant in Craiova. This type boasts performances ensuring its operation in various climate conditions.

In the 28 years which have elapsed since the construction of the first locomotive, the emblem Electroputere has been inscribed on more than 3,500 electric and Diesel-electric engines of large capacities, executed in 12 types and various. Approximately one third of them have been exported throughout the world.

At the beginning of 1988 the enterprise has introduced in the production line the first 3,100 hp Diesel-electric engines as part of its export programme, as well as the first Diesel-electric engines of the same capacity designed for foreign partners.



### LIFE AS PROFIT

"It wouldn't be possible otherwise. What would the meaning of our work be if we didn't succeed in taking from it a real physical profit. Day by day, by the year. Partly, we make our life more beautiful with this profit."

These are the words of a 35-year old mayor, Livia Oprileanu, who manages the public affairs of Perleam commune (Timiș county). She was elected mayor in 1979. But until then her way had been strewn with hardships. In 1968 she was an apprentice at an artisan's unit. Then she attended a vocational school in

study. It is very important — Livia Oprileanu said — to rely on certificates during one's teens. As the professional activity in Perleam shows, 60 per cent of the inhabitants and labour force are female, adequate jobs are being offered. On the mayor's agenda there are projects for the modernization of agriculture. The production cooperative farm is one of the best in the country. Bumper crops are harvested from large areas. About 6,000 ha, tree-growing — the Perleam peaches are famous — covers over 600 ha. A few years ago, the farmers gathered under 2,000 kg per ha of wheat, barley, corn, 800 kg of sunflower, soybean and beans, about 13,000 kg per ha of sugar beet. Thanks to the use of some new high-yield breeds and hybrids, "Lavrini-34", "Pandulene-29", "Libelula", for wheat, "Sofia" for corn, "Mira" for barley, to re-arranging the soils and introducing the 4-year crop rotation and also thanks to the collaboration of the specialists at the Tîrgu Mureș Agricultural Research Station and those of the research base of the Institute of Chirnici in Cluj-Napoca, better and better results have been scored. Last year, 6,100 kg of wheat, 8,200 kg of barley, over 23,400 kg of corn cobs, over 3,300 kg of soy beans, 3,800 kg of sunflower, 2,300 kg of beans and over 51,000 kg of sugar beet per ha were obtained. For their results, the farmers in Perleam were awarded the "Agricultural Merit" under third class in 1982 and second class in 1983 and 1985. For the above mentioned wheat and barley outputs they were awarded the "Order of the New Romanian Revolution" in 1986. We expect to receive the same distinction — mayor Livia Oprileanu told me — for several years.

M. CONSTANTINESCU



Compared to 1965 the amounts allotted per capita from the state budget for health care have increased more than three times.

While in 1965 the number of physicians was of 27,900 today it surpasses 48,000. In Romania, a physician takes care of 475 inhabitants. This is a ratio registered by a small number of countries in the world.

In 1986 the hospitals had a total number of 204,200 beds. Last year new hospitals were built in Sîmleu Silvaniei, Calafat, Orăștie, Roșiori 'da

Vede. Other localities will soon enrich their downy with hospitals or hospitals and polyclinics: Dorohoi, Adjud, Rovinari, Negrești-Oaș, Beclau and Giurgiu.

There are over 1,500 enterprise dispensaries and 3,900 territorial dispensaries (rural or urban) in the whole country.

Health care is free of charge for all children in Romania. Bonuses granted to mothers who gave birth to more than one child have grown from 1,000 to 1,500 lei.



### FRAILTY AND VIGOUR

The girl's name is Lumină Nicăescu and she works at the Institute of Tree-Growing in Mărășești (Argeș county). Attracted by these forms of the living matter — plants, trees, flowers — Lumină became after graduation from high-school, a rigorous laboratory assistant at the above mentioned Institute. After a short period of hesitation Lumină expressed her wish to attend the evening classes of the Biology Faculty in Piatra Neamț (Neamț county) where the Institute of Tree-Growing is seated. Her wish came true without any difficulty.

But Lumină still felt that her deadlines had not yet been broken. So that, after the necessary demarcations, she went to the University in Cluj-Napoca, she passed some exams and added another two years to her studies. She got her biologist's title not long ago. And not as a mere formality. During these years, Lumină Nicăescu did not cease to work patiently, obstinately, even recklessly — as she herself admits. But her perseverance was not useless; her face beaming with a bright inner smile, she half-opened the door of a refrigerator and showed us for a few seconds, the downy she had acquired. The story of that wealth

of knowledge, details, out of seconds, hours, days and years of infinite minutes. In the beginning, there was a tender, green bit, whose details cannot be seen with the naked eye. The vegetal fragment rigorously sterilized; no virus, no pathogenous agent can touch this trait being anymore. Its evolution passes through a test tube, a tray with the name "chick" is fed with all the substances it needs. After six weeks, from the jelly-like layer at the bottom of the test tube, there springs a thin, thread-like root. With a lot of prudence, it is then transplanted to the greenhouse, for acclimatization. This takes some other weeks of watching, observations, put down in detail. And then, the much looked forward to wonder comes out: round the explant (the tip of the plant) not one, but 40-50 sprouts appear, as frail as delicate zygotes. But her perseverance was not useless; her face beaming with a bright inner smile, she half-opened the door of a refrigerator and showed us for a few seconds, the downy she had acquired.

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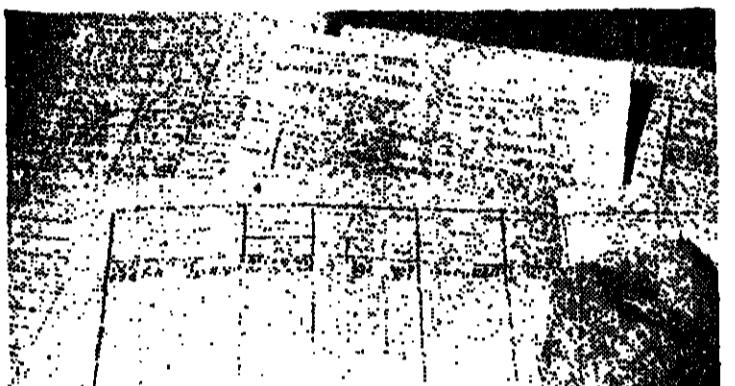
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## THE BLUE-EYED FAMILY

In the spring of 1979 a young couple, gripped by the breathless intensity of their emotions, uttered an outright and solemn I do at the ceremony held in the Wedding House. Therefore, a new family was set up: Alexandru and Constanta Năstase. The moment — always unique for the newly-weds but quite ordinary in the eyes of witnesses — seemed to have no significant consequence for the young couple either...

### THE CONTINUER OF A NAME

Alexandru Năstase, a graduate from the Electronica High School worked (and is still working, now boasting 17 years



wish. On February 18, 1980, they had their first child — Răzvan Alexandru, a beautiful and robust new-born baby who was to carry on the name of Năstase. From the earliest weeks, the boy had become "the most intelligent, agile baby in the world. Hardly had he reached the age of



### WHOM DOES IONUT TAKE AFTER?

The girl grew fast, the boy too, having an ascendancy of two years over his sister. It was time for Răzvan Alexandru to attend the district kindergarten no. 90. Ann Marie followed suit. 1983, 1984 and 1985 passed in an atmosphere of harmonious

23,000,000

In the evening of December 2, 1987, in an apartment at 4 Aglaia Alley in Bucharest, everyone was in an unusual state of excitement. The elder children, one of eight, the other of five years and a half, were sent to bed, while Ionut was entrusted to his grandmother.

When the clock struck 0.01, marking the day of December 3, 1987, the white hall of the Municipal Hospital reverberated — surprisingly early even for the experienced medical staff — with the triumphant shout of a doctor announcing his entrance.

In the morning of the same day, dr. Radu Bunea visited the young mother, congratulating her with an exuberance which he felt to be normal for the occasion: "You have a famous girl!" The girl's name was Elena Ioana. It was established beforehand by her father who was sure it was going to be a daughter in order to make up the second pair.

At the enterprise of radio parts and semiconductors Alcatel, the girl was born on November 11, 1988, an

peace and joy for the four members of the Năstase family. The summer of 1988 brought about the first official confirmation of Răzvan Alexandru's precocious intelligence, encouraged also by his mother's — the manager of the kindergarten awarded him a diploma of honour "for special merits in education and discipline". In June 1988, upon graduation of the first class, Răzvan Alexandru Năstase was officially and festively handed another, "more serious" distinction — the first prize (with wreath, naturally).

VIORICA CIORBAGIU ■

## OPENHEARTED

The inorganic chemistry lab of the specialist faculty at Inst. University is never empty. There you can certainly find Magda Petrovani with the students but also alone, following a complicated research theme with practical implications.

Professor doctor Magda Petrovani is a member of the French chemical society, of the

Balkan Medical Academy and of other international scientific organizations. Last year she held specialized conferences in West Germany and France, she participated in prestigious international chemistry congresses. Her lectures were praised by personalities in the field.

"I have the greatest satisfaction when my students appreciate my lectures," told her the distinguished professor. "In fact, what I presented them over the years, lies at the basis of the first printed course of the History of World and Romanian Chemistry."

Last spring prof. dr. Magda Petrovani participated in the National Colloquium of Student Scientific Circles and was satisfied. Beyond the papers, the scientific level, their originality, how students proved that they had adopted an attitude that the scientific students must not only have a broad scientific horizon, but also a philosophical and cultural one. They must be multilaterals. Only passion for beauty, for truth can lead to generally human assets."

Such an ideal for which she has spontaneously planned during her entire brilliant didactic career made her become a member of the Romanian National Committee "Scientific and Pedagogical Award Committee" for the first time. She is also a member of the Romanian Association of the People for the Protection of the People.

CONSTATIN LUPU ■

One third of the Grand National Assembly deputies are women. 40 percent of the people's councils deputies are women. Over 16,000 women belong to working people's councils in enterprises and institutions and 22,000 were elected members of the leading councils of agricultural production cooperatives.

Almost 45 percent of the country's economically active population is represented by women. They hold a share of 42 percent in industry, 75.3 percent in health care units and 65 percent in education, culture and art.

The spectacular progress registered by women in the scientific activity — from 32.1 percent in 1965 to some 44 percent in 1986 is worth mentioning.

of uninterrupted service) at the enterprise of radio parts and semiconductors in Bucharest. He and his wife had been colleagues at the same enterprise, until...

### THE YOUNGEST CHILD A BABY GIRL

Alexandru was the only child of a widow. She could hardly remember his father who had died of an untimely death. In his childhood, and in all the years before his marriage Alexandru had always wished to have at least a brother or a sister. For her part, Constanta had three brothers and two sisters (while her grandparents had had no less than 11 offspring).

Therefore, it is easy to presume that the new family of Năstase aspired after fulfilling its duty, apparently different, the reason led to a common

one year when his parents began to feel sorry for having only one child.



## NEW AND EFFICIENT ROMANIAN DRUGS GASTROZEPIN-PANZCEBIL

The new therapeutic product called PANZCEBIL favours the digestion of proteins, carbohydrates and lipides through its contribution of pancreatic enzymes, hemicellulose and biliary salts, being quite efficacious in the treatment of digestive affections through enzymatic and biliary deficiency. PANZCEBIL is recommended for afflictions caused by the secretive deficiency of the digestive glands, especially of the pancreas (chronic pancreatitis, dyspepsia of fermentation and putrefaction, meteism), post-surgery treatment in surgical interventions on the intestine and biliary ducts.



As regards its pharmacotherapeutic action, GASTROZEPIN has a sharp selective ability. It has a strong affinity to muscarinic receptors, especially at the level of the exogenous glands. The system of linkage to receptors has special characteristics, different from those belonging to atropine-type anticholinergic agents. The product blocks the acetylcholine receptors of the parietal cells of the stomach, functioning as an inhibitor of the gastric acid secretion.

## SERMION

### THERAPEUTIC ACTION

Reduces vascular resistance at cerebral level, improves arterial circulation; oxygen and glucose consumptions.

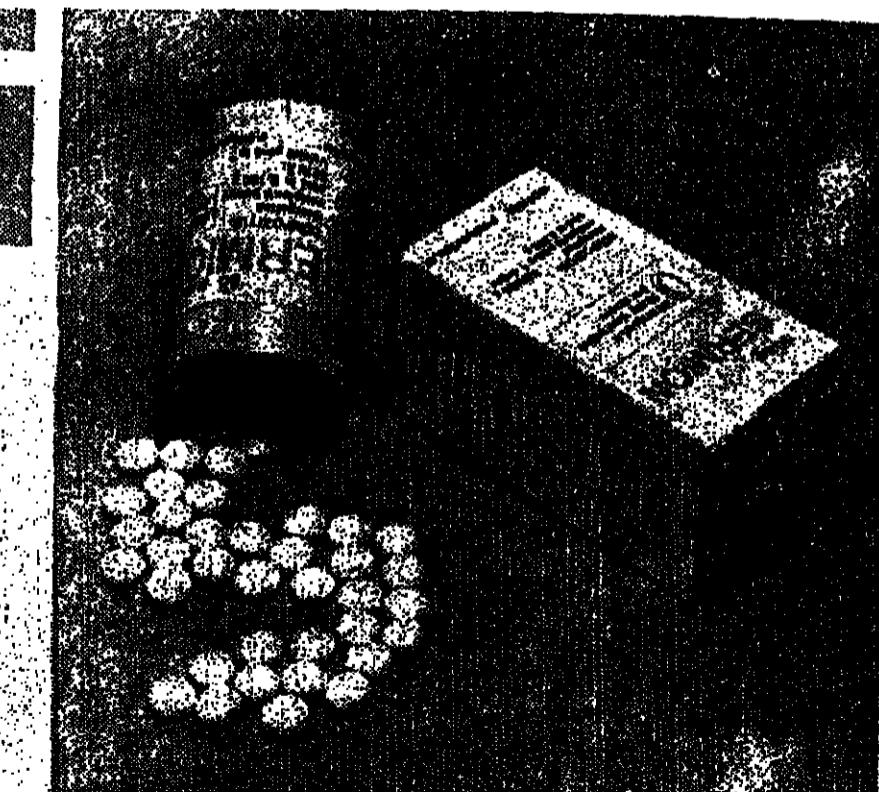
Reduces vascular resistance at the level of pulmonary vessels. Improves blood circulation especially for patients with functional arterioopathy. Systemic blood pressure is not generally influenced by therapeutic doses of Sermion.

### INDICATIONS

Acute or chronic cerebral vascular insufficiency (atherosclerosis, cerebral thrombosis, embolism, cerebral ischemia), acute or chronic peripheral vascular insufficiency (obliterating vascular affections of the limbs).

Raynaud and other syndromes accompanied by the alteration of peripheral circulation, headaches.

As adjuvant in the antihypertensive therapy.



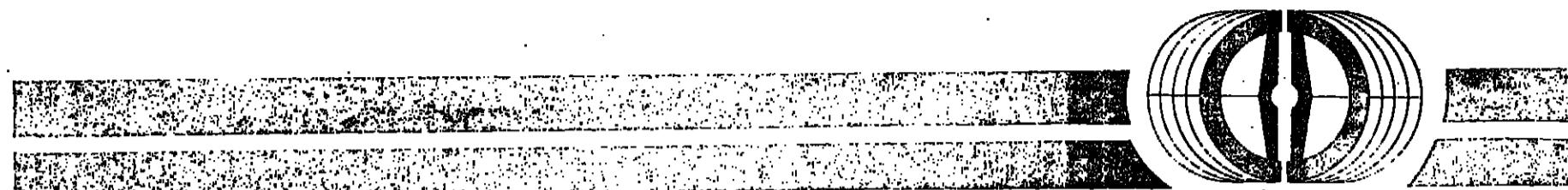
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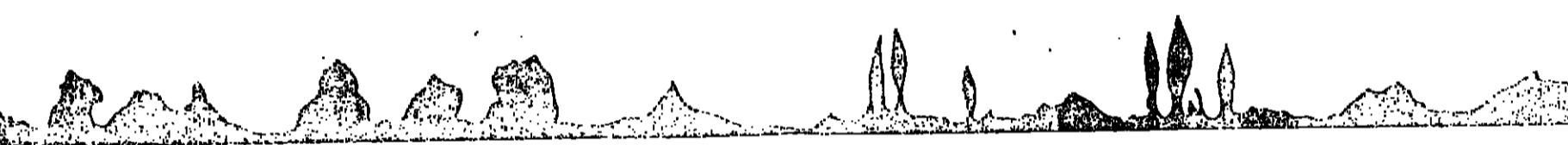


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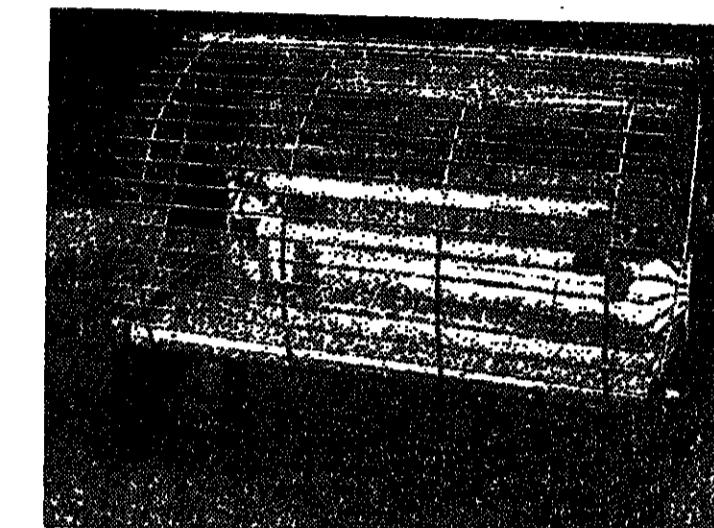
• REU OIL-FILLED ELECTRIC HEATER, with 7, 9, 10, 13 and 14 elements of 350, 450, 1,000 and 2,000 watts respectively. It can heat rooms between 40 and 60 cu.m. REU radiator has a modern line and an iron-proofable finishing and is equipped with a thermostat. It is also supplied with a long cord while an independent transport system carries the radiator to the desired place.

W, which can be reduced to 750 w by means of a switch.

• "NADIA" ELECTRIC STEAM AND SPRAY IRON. It has a nominal power of 1,000 w and can be used for dry, steam and spray ironing. The thermoregulator allows the control of the constant temperature maintenance according to the material to be ironed and the type of ironing (dry or humid). The vapour flow can be controlled as needed.

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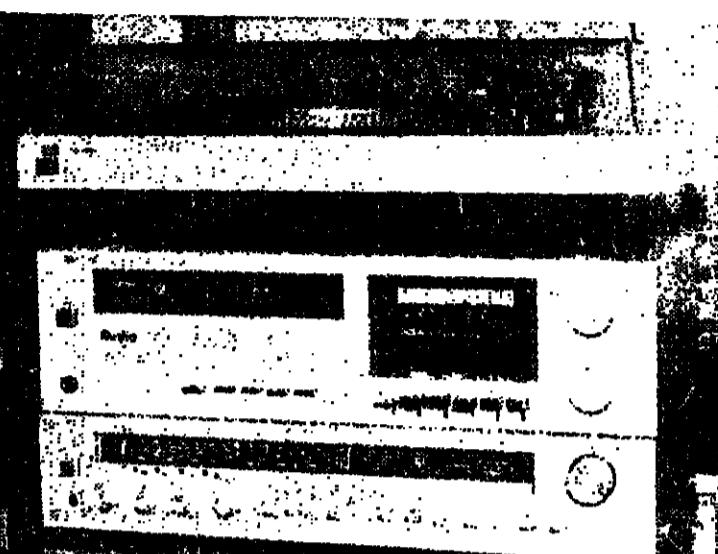


ELECTRO  
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record player DECK. This complex instrument of high audio-fidelity can be used both in apartments and in large halls.

• STEREOPHONIC AUDIO-FREQUENCY AMPLIFIER 2 x 15 W TYPE DS 1520. Thought out as a stereophonic amplifier of the sound signals of the cassette-recorder, radio set, phonograph, this apparatus can also be used for picking up and amplifying any adequate sound programme sources meeting the characteristics of the amplifier.

• STEREOPHONIC CASSETTE RECORDER, DECK TYPE DS 3001. This cassette recorder ensures good recording and playback through ear-phones



or amplifier of the monophonic or stereophonic audio programmes.

• ELECTRONIC CASSETTE RECORDER TYPE CME-100. This ultramodern apparatus is meant for the registration, play and addition of takings. CME-100 performs addition and multiplying operations, having a maximum single display capacity of 999,999 and a maximum totaling capacity of 999,999,999.

• PAPER PLAIN COPIER MEC-1 M. It has a single copying capacity of 250 copies per hour and a multiple copying capacity of 120 copies per hour.

• RADIO SETS, CASSETTE RECORDERS, RADIOCASSETTE RECORDERS, "STELA" for automobiles.

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ed. Fabrics can be sprayed before ironing by means of a spray nozzle.

• "RUBIN" AND "OLIMP" ELECTRIC FLATIRONS WITH THERMOREGULATOR. These two types have a nominal power of 1,000 w, are light and the temperature can be controlled.

• "VOIA" FLATIRON. This is a flatiron made for travelling. It has removable handle and cord, a weight of 0.850 kg and a nominal power of 250 w.

• SIMPLE AND DOUBLE HEATING PLATES of various types ("Ministandard", "Popular", "Vola", "Lupuna", etc), modern and very practical.

• CABLES of various types for electric household appliances, for cars or manufactured upon demand.

• CONDUCTORS of various types and dimensions, insulated with plastic materials.

ELECTROMURES enterprise boasts a nearly four-decade experience, a period during which it has trained a highly skilled staff of technicians, engineers and experts. This explains the performances of the firm, manufacturing in an extremely flexible and highly competitive production, in step with the latest requirements at a world level. The enterprise has its own research and design departments, where designers devise solutions for improving and updating products, taking into account market studies. The technical productive equipment of the enterprise vies with that of the most renowned specialist firms. In this respect, we should

mention the highly efficient manufacturing lines, the fully automated and robotized procedures, the labs equipped with state-of-the-art apparatus, the special equipment and standards of manufacturing processes for testing finished products in limit conditions.

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